



SDMS DocID

549628

MEMORANDUM

Superfund Records Center
SITE: Wells 9 & H
BREAK: 3-2
OTHER: 549628

TO: J. Lawson

MEMO NO.: 102-APP-326

FROM: A. Paradice

FILE: 0005-407

SUBJECT: Unifirst, Woburn

DATE: 10/22/87

The results for the analysis of various Water samples received from the Woburn, MA site, on 9/25/87 are attached.

The cost for these analyses is \$ 600.00.

APP/dpm

cc:

memo only

P. Pelletier

M. Sparlin

T. Trainor

Report Gen.

+ disposition letter

M. Lynn

+ report

Chemistry File

From: LABORATORY MANAGER

Date of
Issuance: 10/22/87

Subject: SAMPLE RETENTION TERMS

Client: Unifirst, Woburn

Date Sample
Received: 9/25/87

Number of Samples
Received/Matrix: 3 Water

It is the policy of ERT to dispose of unanalyzed portions of samples thirty (30) days following submittal of the pertinent final analytical results report. This letter serves as notification that the above samples will be due for disposal. Sample extracts for organic analyses will be archived for one (1) year. Separate notification will be sent to you prior to disposal of sample extracts.

- A. ERT will return to you all unused samples at your expense (Federal Express), or
- B. ERT will maintain custody of the samples at a cost of fifteen dollars (\$15.00) per sample per quarter for refrigerated storage, and three dollars (\$3.00) per sample per quarter for ambient storage. You will be billed in advance each quarter based upon the number of samples in storage at the beginning of the quarter. The minimum storage fee per project will be fifty dollars (\$50.00) per quarter to cover administrative costs.

YOU MUST RETURN THIS LETTER TO THE LABORATORY MANAGER WITH PROPER AUTHORIZATION (i.e., Purchase Order Number, Federal Express Number, etc), SAMPLE OPTION, SIGNATURE AND DATE WITHIN THIRTY (30) DAYS OF ISSUANCE OR THE SAMPLES INDICATED ABOVE WILL BE DISPOSED.

OPTION:

AUTHORIZATION NO.: _____ (Federal Express)
 _____ (Purchase Order)

SIGNATURE: _____

DATE: _____

ANALYSIS OF WATER SAMPLES

From

Unifirst, Woburn Site

ERT PROJECT NO. 0005-407

October 22, 1987

PREPARED FOR

J. Lawson, ERT, Concord, MA.

Prepared by
Analytical Chemistry Laboratory
ERT, Resource Engineering Company
33 Industrial Way, Wilmington, Massachusetts 01887

ANALYSIS OF SAMPLES
FROM
UNIFIRST, WOBURN, MA. SITE

INTRODUCTION

This report represents the results of analysis conducted on various Water samples received by the ERT Analytical Chemistry Laboratory on September 25, 1987. The samples were to be selectively analyzed for volatile organic compounds.

SAMPLE RECEIPT AND CHAIN OF CUSTODY

Routine inspection of the samples revealed them to be packaged properly and received in good condition.

Upon receipt, information from the submitted samples was recorded in the Master Log Book (and the LIMS computer system) and assigned ERT Control Numbers. These unique sample labels were affixed to respective sample containers and subsequently utilized throughout the laboratory analysis procedures for positive traceability.

ANALYTICAL PROCEDURES

The water samples were analyzed according to procedures as outlined in:

- a. Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, 40 CFR Part 36, Federal Register, Vol. 49, No. 209, October 26, 1984.
- b. Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, revised, March, 1983.
- c. Standard Methods for the Examination of Water and Wastewater, 16th Edition, APHA, 1985

QUALITY CONTROL PROCEDURES

Standard quality control procedures were implemented for all analyses. Laboratory reagent (method) blanks, laboratory duplicated samples, and laboratory fortified control samples were analyzed concurrently with each case of submitted samples. The laboratory normally prepares and analyzes one (1) blank, one (1) fortified sample, and one (1) duplicate sample for each case of samples received or for each twenty (20) samples, whichever is more frequent. A case consists of a finite, usually predetermined number of samples collected over a given time period from one particular site. Duplicate sample analyses are performed only when sufficient sample volume is received. The results of the analyses are reviewed by the laboratory quality control coordinator to insure compliance with established analytical control limits.

Laboratory prepared method blank samples and fortified samples are identified in the analytical result tables under the Field Identification number using a unique numbering system and also assigning one ERT sample number to each sample. The Prefix "MB" refers to Method Blank, and "LF" refers to Laboratory Fortification (i.e., a quality control recovery sample).

In most cases, the analytical results will have been corrected using mean method blank results.

RESULTS OF ANALYSIS

Analytical results for the submitted samples are presented in the appended tables. Summary tables for the results of duplicate, blank, and fortified control samples have also been provided in the Appendix.

DISCUSSION

Review of the results of the quality control/quality assurance samples analyzed concurrently with the submitted samples indicated that the analyses were within the acceptance criteria as established by the U.S. EPA.

VOLATILES ANALYSES IN WATER

Summary of Analytical Results

Method Blank Results

Quality Control Check Sample Results

ERT ANALYTICAL LABORATORY
SUMMARY OF ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS IN WATER

ERT NO.: 48030
FLD ID: TANKER
SAMPLING SITE: WOBURN, MA

CLIENT: UNIFIRST
DATE SAMPLED: 09/25/87
DATE ANALYZED: 09/26/87

| PARAMETER | RESULT UG/L | PARAMETER | RESULT UG/L |
|--------------------------|----------------|---------------------------|----------------|
| CHLOROMETHANE | BDL | TRANS-1,3-DICHLOROPROPENE | BDL |
| BROMOMETHANE | BDL | TRICHLOROETHENE | BDL |
| VINYL CHLORIDE | BDL | DIBROMOCHLOROMETHANE | BDL |
| CHLOROETHANE | BDL | 1,1,2-TRICHLOROETHANE | BDL |
| METHYLENE CHLORIDE | BDL | BENZENE | BDL |
| ACETONE | BDL | CIS-1,3-DICHLOROPROPENE | BDL |
| CARBON DISULFIDE | BDL | 2-CHLOROETHYL VINYL ETHER | BDL |
| 1,1-DICHLOROETHENE | BDL | BROMOFORM | BDL |
| 1,1-DICHLOROETHANE | BDL | 2-HEXANONE | BDL |
| TRANS-1,2-DICHLOROETHENE | BDL | 4-METHYL-2-PENTANONE | BDL |
| CHLOROFORM | BDL | TETRACHLOROETHENE | BDL |
| 1,2-DICHLOROETHANE | BDL | 1,1,2,2-TETRACHLOROETHANE | BDL |
| 2-BUTANONE | BDL | TOLUENE | BDL |
| 1,1,1-TRICHLOROETHANE | BDL | CHLOROBENZENE | BDL |
| CARBON TETRACHLORIDE | BDL | ETHYL BENZENE | BDL |
| VINYL ACETATE | BDL | STYRENE | BDL |
| BROMODICHLOROMETHANE | BDL | TOTAL XYLENES | BDL |
| 1,2-DICHLOROPROPANE | BDL | | |

SURROGATE RECOVERY %

| | |
|------------------------|-----|
| 1,2-DICHLOROETHANE, D4 | 116 |
| BENZENE, D6 | 106 |
| TOLUENE, D8 | 108 |
| BROMOFLUOROBENZENE | 111 |

BDL = BELOW DETECTION LIMIT (CONC. < 10 UG/L)

REVIEWED by

ANALYST jc 10/21/87
SUPERVISOR SLP 10/31/87
QC COORD UH 10/21/87

ERT ANALYTICAL LABORATORY
SUMMARY OF ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS IN WATER

ERT NO.: 48031
FLD ID: FIELD BLANK
SAMPLING SITE: WOBURN, MA

CLIENT: UNIFIRST
DATE SAMPLED: 09/25/87
DATE ANALYZED: 09/26/87

| PARAMETER | RESULT UG/L | PARAMETER | RESULT UG/L |
|--------------------------|----------------|---------------------------|----------------|
| CHLOROMETHANE | BDL | TRANS-1,3-DICHLOROPROPENE | BDL |
| BROMOMETHANE | BDL | TRICHLOROETHENE | BDL |
| VINYL CHLORIDE | BDL | DIBROMOCHLOROMETHANE | BDL |
| CHLOROETHANE | BDL | 1,1,2-TRICHLOROETHANE | BDL |
| METHYLENE CHLORIDE | 170 | BENZENE | BDL |
| ACETONE | BDL | CIS-1,3-DICHLOROPROPENE | BDL |
| CARBON DISULFIDE | BDL | 2-CHLOROETHYL VINYL ETHER | BDL |
| 1,1-DICHLOROETHENE | BDL | BROMOFORM | BDL |
| 1,1-DICHLOROETHANE | BDL | 2-HEXANONE | BDL |
| TRANS-1,2-DICHLOROETHENE | BDL | 4-METHYL-2-PENTANONE | BDL |
| CHLOROFORM | BDL | TETRACHLOROETHENE | BDL |
| 1,2-DICHLOROETHANE | BDL | 1,1,2,2-TETRACHLOROETHANE | BDL |
| 2-BUTANONE | BDL | TOLUENE | BDL |
| 1,1,1-TRICHLOROETHANE | BDL | CHLOROBENZENE | BDL |
| CARBON TETRACHLORIDE | BDL | ETHYL BENZENE | BDL |
| VINYL ACETATE | BDL | STYRENE | BDL |
| BROMODICHLOROMETHANE | BDL | TOTAL XYLENES | BDL |
| 1,2-DICHLOROPROPANE | BDL | | |

SURROGATE RECOVERY %

| | |
|------------------------|-----|
| 1,2-DICHLOROETHANE, D4 | 121 |
| BENZENE, D6 | 108 |
| TOLUENE, D8 | 114 |
| BROMOFLUOROBENZENE | 108 |

BDL = BELOW DETECTION LIMIT (CONC.<10 UG/L)

REVIEWED by

ANALYST dc 10/21/87
SUPERVISOR LLP 10/21/87
QC COORD mu 10/21/87

ERT ANALYTICAL LABORATORY
SUMMARY OF ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS IN WATER

ERT NO.: 48033
FLD ID: SHIPPING BLANK
SAMPLING SITE: WOBURN, MA

CLIENT: UNIFIRST
DATE SAMPLED: 09/10/87
DATE ANALYZED: 09/26/87

| PARAMETER | RESULT UG/L | PARAMETER | RESULT UG/L |
|--------------------------|----------------|---------------------------|----------------|
| CHLOROMETHANE | BDL | TRANS-1,3-DICHLOROPROPENE | BDL |
| BROMOMETHANE | BDL | TRICHLOROETHENE | BDL |
| VINYL CHLORIDE | BDL | DIBROMOCHLOROMETHANE | BDL |
| CHLOROETHANE | BDL | 1,1,2-TRICHLOROETHANE | BDL |
| METHYLENE CHLORIDE | BDL | BENZENE | BDL |
| ACETONE | BDL | CIS-1,3-DICHLOROPROPENE | BDL |
| CARBON DISULFIDE | BDL | 2-CHLOROETHYL VINYL ETHER | BDL |
| 1,1-DICHLOROETHENE | BDL | BROMOFORM | BDL |
| 1,1-DICHLOROETHANE | BDL | 2-HEXANONE | BDL |
| TRANS-1,2-DICHLOROETHENE | BDL | 4-METHYL-2-PENTANONE | BDL |
| CHLOROFORM | BDL | TETRACHLOROETHENE | BDL |
| 1,2-DICHLOROETHANE | BDL | 1,1,2,2-TETRACHLOROETHANE | BDL |
| 2-BUTANONE | BDL | TOLUENE | BDL |
| 1,1,1-TRICHLOROETHANE | BDL | CHLOROBENZENE | BDL |
| CARBON TETRACHLORIDE | BDL | ETHYL BENZENE | BDL |
| VINYL ACETATE | BDL | STYRENE | BDL |
| BROMODICHLOROMETHANE | BDL | TOTAL XYLENES | BDL |
| 1,2-DICHLOROPROPANE | BDL | | |

SURROGATE RECOVERY %

| | |
|------------------------|-----|
| 1,2-DICHLOROETHANE, D4 | 115 |
| BENZENE, D6 | 107 |
| TOLUENE, D8 | 109 |
| BROMOFLUOROBENZENE | 115 |

BDL = BELOW DETECTION LIMIT (CONC. < 10 UG/L)

REVIEWED by

ANALYST dc 10/21/87
SUPERVISOR LP 10/21/87
QC COORD MH 10/21/87

ERT ANALYTICAL LABORATORY
SUMMARY OF ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS IN WATER

ERT NO.: 48160
FLD ID: MB870813
SAMPLING SITE: WOBURN, MA

CLIENT: UNIFIRST
DATE SAMPLED: 09/26/87
DATE ANALYZED: 09/26/87

| PARAMETER | RESULT UG/L | PARAMETER | RESULT UG/L |
|--------------------------|----------------|---------------------------|----------------|
| CHLOROMETHANE | BDL | TRANS-1,3-DICHLOROPROPENE | BDL |
| BROMOMETHANE | BDL | TRICHLOROETHENE | BDL |
| VINYL CHLORIDE | BDL | DIBROMOCHLOROMETHANE | BDL |
| CHLOROETHANE | BDL | 1,1,2-TRICHLOROETHANE | BDL |
| METHYLENE CHLORIDE | BDL | BENZENE | BDL |
| ACETONE | BDL | CIS-1,3-DICHLOROPROPENE | BDL |
| CARBON DISULFIDE | BDL | 2-CHLOROETHYL VINYL ETHER | BDL |
| 1,1-DICHLOROETHENE | BDL | BROMOFORM | BDL |
| 1,1-DICHLOROETHANE | BDL | 2-HEXANONE | BDL |
| TRANS-1,2-DICHLOROETHENE | BDL | 4-METHYL-2-PENTANONE | BDL |
| CHLOROFORM | BDL | TETRACHLOROETHENE | BDL |
| 1,2-DICHLOROETHANE | BDL | 1,1,2,2-TETRACHLOROETHANE | BDL |
| 2-BUTANONE | BDL | TOLUENE | BDL |
| 1,1,1-TRICHLOROETHANE | BDL | CHLOROBENZENE | BDL |
| CARBON TETRACHLORIDE | BDL | ETHYL BENZENE | BDL |
| VINYL ACETATE | BDL | STYRENE | BDL |
| BROMODICHLOROMETHANE | BDL | TOTAL XYLENES | BDL |
| 1,2-DICHLOROPROPANE | BDL | | |

SURROGATE RECOVERY %

| | |
|------------------------|-----|
| 1,2-DICHLOROETHANE, D4 | 108 |
| BENZENE, D6 | 103 |
| TOLUENE, D8 | 105 |
| BROMOFLUOROBENZENE | 107 |

BDL = BELOW DETECTION LIMIT (CONC. < 10 UG/L)

REVIEWED by

ANALYST jc 10/21/87
SUPERVISOR JHP 10/21/87
QC COORD LH 10/21/87

ERT ANALYTICAL LABORATORY
SUMMARY OF ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS IN WATER

ERT NO.: 48165
FLD ID: LF871106
SAMPLING SITE: WOBURN, MA

CLIENT: UNIFIRST
DATE SAMPLED: 09/26/87
DATE ANALYZED: 09/26/87

| PARAMETER | % RECOVERY |
|---------------------|------------|
| VINYL CHLORIDE | 100 |
| 1,1-DICHLOROETHENE | 140 |
| CHLOROFORM | 120 |
| 1,2-DICHLOROPROPANE | 100 |
| TOLUENE | 100 |
| ETHYL BENZENE | 99 |

✓ JC 10/21/87
✓ JGP 10/21/87
MH 10/21/87

CHAIN-OF-CUSTODY RECORDS

UNIFIRST

WOBURN, MA.

CHAIN OF CUSTODY RECORD

| Client/Project Name UNIFIRST | | | Project Location WOBURN, MA | | | ANALYSES | | | | | | REMARKS | |
|---|---------|---------|---------------------------------------|-----------------------------|---------------|--|--|------|--|-----------------|---------------|------------|--|
| Project No. D495-004 | | | Field Logbook No. | | | | | | | | | | |
| Sampler (Signature) <i>[Signature]</i> | | | Chain of Custody Tape No. | | | | | | | | | | |
| Sample No./ Identification | Date | Time | Lab Sample Number | Type of Sample | VOR 624 | | | | | | REMARKS | | |
| Tanker - | 9/25/87 | 10:10 | 48030 | Water | ✓ | | | | | | | normal | |
| Field Blank | " | 10:20 | 48031 | " | ✓ | | | | | | | turnaround | |
| Shipping Blank | 9/10/87 | 2:20 pm | 48032 | " | ✓ | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Relinquished by: (Signature) <i>[Signature]</i> | | | | Date 9/25/87 | Time 11:21 | Received by: (Signature) | | | | Date | Time | | |
| Relinquished by: (Signature) | | | | Date | Time | Received by: (Signature) | | | | Date | Time | | |
| Relinquished by: (Signature) | | | | Date | Time | Received for Laboratory: (Signature) <i>[Signature]</i> | | | | Date 9/25/87 | Time 11:21 | | |
| Sample Disposal Method: | | | | Disposed of by: (Signature) | | | | Date | | | | Time | |
| SAMPLE COLLECTOR | | | | ANALYTICAL LABORATORY | | | | | | | ERT | | |
| Environmental Research and Technology, Inc. 696 Virginia Road Concord, MA 01742 617-369-8910 | | | | | | | | | | | No. 428 | | |

SAMPLE RECEIPT CHECK LIST

Client: *Virgin, Woburn 0005-407*

COC Record #(s): *428*

| Matrix | Container | ERT #(s) |
|--------------------|-------------------|----------------------------|
| <i>Water MS001</i> | <i>300A vials</i> | <i>48030, 48031, 48033</i> |
| | | |
| | | |
| | | |
| | | |

1. Were samples ~~shipped~~ or hand-delivered?

Notes:

Jeff Lawson

Yes ☒ No ☐

2. Was COC record present upon receipt of samples?

Notes:

Yes ☐ No ☒

3. Was COC tape present/unbroken on outer package?

Notes:

4. Were samples received ambient or chilled?

Notes:

Yes ☐ No ☒

5. Were any samples received broken/leaking (improperly sealed)?

Notes:

small air bubbles noticed in shipping Blank

Yes ☒ No ☐

6. Were samples properly preserved?

Notes:

Yes ☐ No ☒

7. Were COC types present/unbroken on samples?

Notes:

Yes ☐ No ☒

8. Any discrepancies between sample labels and COC records?

Notes:

Yes ☒ No ☐

9. Were samples received within holding times?

Notes:

Additional Comments:

RS

Samples inspected and logged in by

Michael Ryan

Date:

9/25/87